IN THE CLAIMS

1. (Presently Amended) A method of determining an optimal route based upon path quality of routes to an access node of a wireless ~~mesh~~ network, the method comprising:

receiving routing packets at the access node through at least one wireless route; each routing packet including route information that identifies the wireless route of the routing packet;

~~first selecting at least one of the wireless routes through a first screening measure, the first screening measure providing a criteria for allowing selection of wireless routes;~~

determining a success ratio of a number of successfully received routing packets versus a number of transmitted routing packets over a period of time T1, for each wireless route; and

first selecting at least one of wireless route having a greatest success ratio, and other wireless routes that have success ratios within a predetermined amount of the greatest success ratio; and

determining an optimal wireless route based upon at least one ~~the~~ first selected routes.

2. (Cancelled) The method of determining an optimal route of claim 1, wherein first selecting the wireless routes comprises:

determining a success ratio of a number of successfully received routing packets versus a number of transmitted routing packets over a period of time T1, for each wireless route; and

first selecting at least one of the wireless routes having a greatest success ratio, and other wireless routes that have success ratios within a predetermined amount of the greatest success ratio.

3. (Original) The method of determining an optimal route of claim 1, wherein the routing packets are beacons.

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4. (Original) The method of determining an optimal route of claim 3, wherein the beacons are initially transmitted by at least one gateway.

5. (Original) The method of determining an optimal route of claim 3, wherein the beacons are transmitted according to an 802.11 protocol.

6. (Original) The method of determining an optimal route of claim 1, wherein a predetermined number of routing packets are transmitted from at least one gateway over a unit of time.

7. (Presently Amended) The method of determining an optimal route of claim 1, wherein determining an optimal wireless route based upon ~~the~~ at least one first selected routes comprises:

of the at least one first selected routes, receiving routing packets at the access node through at least one first selected route; each routing packet including route information that identifies the wireless route of the routing packet;

second selecting at least one ~~of the~~ first selected wireless routes through a second screening measure, the second screening measure providing a criteria for allowing selection of wireless routes; and

determining an optimal wireless route based upon ~~the~~ at least one second selected routes.

8. (Cancelled) The method of determining an optimal route of claim 2, wherein determining an optimal wireless route based upon the first selected routes comprises:

of the first selected routes, receiving routing packets at the access node through at least one first selected route; each routing packet including route information that identifies the wireless route of the routing packet;

second selecting at least one of the first selected wireless routes through a second screening measure, the second screening measure providing a criteria for allowing selection of wireless routes; and

determining an optimal wireless route based upon the second selected routes.

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9. (Presently Amended) The method of determining an optimal route of claim 8 7, wherein second selecting the wireless routes through a second screening measure comprises:

determining a success long ratio of a number of successfully received routing packets versus a number of transmitted routing packets over a period of time T2, wherein T2 is substantially greater than T1, for each first selected route; and

second selecting the wireless route having a greatest success long ratio, and other wireless routes that have success long ratios within a second predetermined amount of the greatest success long ratio.

10. (Presently Amended) The method of determining an optimal route of claim 7, wherein determining an optimal wireless route based upon the at least one second selected routes comprises:

third selecting at least one of the second selected routes having a greatest throughput.

11. (Original) The method of determining an optimal route of claim 10, wherein the second selected routes having a greatest throughput are the second selected paths having a minimal number of wireless hops.

12. (Presently Amended) The method of determining an optimal route of claim 10, wherein if the at least one third selected routes includes a default routing path, then the default routing path is determined to be the optimal route.

13. (Original) The method of determining an optimal route of claim 12, wherein the default routing path is a previously determined optimal route.

14. (Presently Amended) The method of determining an optimal route of claim 10, wherein if the at least one third selected routes does not include a default routing path, then selecting the default routing path if the success long ratio of the default routing path is greater than the success long ratios of the third selected routes.

15. (Presently Amended) The method of determining an optimal route of claim 10, wherein if the at least one third selected routes does not include a default routing path, then selecting at least one of the third selected routes if the success long ratio of the default routing path is less than the success long ratios of the third selected routes.

16. (Presently Amended) The method of determining an optimal route of claim 1, wherein determining an optimal wireless route based upon the at least one first selected routes comprises:

third selecting the at least one first selected routes having a greatest throughput.

17. (Presently Amended) A method of determining an optimal route based upon path quality of routes to an access node of a wireless mesh network, the method comprising:

receiving routing packets at the access node through at least one wireless route; each routing packet including route information that identifies the wireless route of the routing packet;

first selecting at least one of the wireless routes having a greatest throughput; and determining an optimal wireless route based upon the first selected routes.

determining a success ratio of a number of successfully received routing packets versus a number of transmitted routing packets over a period of time T1, for each first selected route;

second selecting at least one first wireless route having a greatest success ratio, and other first selected routes that have success ratios within a predetermined amount of the greatest success ratio; and

determining an optimal wireless route based upon at least one second selected route.

18. (Cancelled) The method of determining an optimal route based of claim 17, wherein determining an optimal wireless route based upon the first selected routes comprises:

determining a success ratio of a number of successfully received routing packets versus a number of transmitted routing packets over a period of time T1, for each first selected route;

second selecting at least one of the first wireless route having a greatest success ratio, and other first selected routes that have success ratios within a predetermined amount of the greatest success ratio; and

determining an optimal wireless route based upon the second selected routes.

19. (Presently Amended) The method of determining an optimal route of claim ~~18~~ 17, wherein determining an optimal wireless route based upon ~~the~~ at least one second selected ~~routes~~ comprises:

of the at least one second selected ~~routes~~, receiving routing packets at the access node through at least one second selected route; each routing packet including route information that identifies the wireless route of the routing packet;

determining a success long ratio of a number of successfully received routing packets versus a number of transmitted routing packets over a period of time T2, wherein T2 is substantially greater than T1, for each second selected route;

third selecting at least one ~~of the~~ wireless ~~routes~~ having a greatest success long ratio, and other wireless routes that have success long ratios within a second predetermined amount of the greatest success long ratio; and

determining an optimal wireless route based upon ~~the~~ at least one third selected routes.

20. (Presently Amended) A wireless access node comprising:

means for receiving routing packets at the access node through at least one wireless route; each routing packet including route information that identifies the wireless route of the routing packet;

means for determining a success ratio of a number of successfully received routing packets versus a number of transmitted routing packets over a period of time T1, for each wireless route; and

means for first selecting at least one ~~of the~~ wireless routes having a greatest success ratio, and other wireless routes that have success ratios within a predetermined amount of the greatest success ratio; and

means for determining an optimal wireless route based upon <u>at least one</u> ~~the~~ first selected routes.

21. (Presently Amended) The wireless access node of claim 20, wherein means for determining an optimal wireless route based upon ~~the~~ <u>at least one</u> first selected routes comprises:

of the <u>at least one</u> first selected routes, means for receiving routing packets at the access node through at least one first selected route; each routing packet including route information that identifies the wireless route of the routing packet;

means for determining a success long ratio of a number of successfully received routing packets versus a number of transmitted routing packets over a period of time T2, wherein T2 is substantially greater than T1, for each first selected route; and

means for second selecting at least one ~~of the~~ first selected wireless routes having a greatest success long ratio, and other wireless routes that have success long ratios within a second predetermined amount of the greatest success long ratio.

means for determining an optimal wireless route based upon <u>at least one</u> ~~the~~ second selected routes.

22. (Presently Amended) The wireless access node of claim 20, wherein means for determining an optimal wireless route based upon ~~the~~ <u>at least one</u> second selected routes comprises:

means for third selecting at least one ~~of the~~ second selected routes having a greatest throughput.

23. (Presently Amended) A method of determining an optimal route based upon path quality of routes to an access node of a wireless mesh network, the method comprising:

receiving routing packets at the access node through at least one wireless route; each routing packet including route information that identifies the wireless route of the routing packet;

determining a success ratio of a number of successfully received routing packets versus a number of transmitted routing packets over a period of time T1, for each wireless route; and

first selecting at least one ~~of the~~ wireless routes having a greatest success ratio, and other wireless routes that have success ratios within a predetermined amount of the greatest success ratio;

of the <u>at least one</u> first selected routes, receiving routing packets at the access node through at least one first selected route; each routing packet including route information that identifies the wireless route of the routing packet;

determining a success long ratio of a number of successfully received routing packets versus a number of transmitted routing packets over a period of time T2, wherein T2 is substantially greater than T1, for each first selected route; and

second selecting at least one ~~of the~~ first selected wireless routes having a greatest success long ratio, and other wireless routes that have success long ratios within a second predetermined amount of the greatest success long ratio.

third selecting ~~the~~ <u>at least one</u> second selected routes having a greatest throughput.

determining an optimal wireless route based upon ~~the~~ <u>at least one</u> third selected routes.

24. (Presently Amended) The method of determining an optimal route of claim 23, wherein if the <u>at least one</u> third selected routes include<u>s</u> a default routing path, then the default routing path is determined to be the optimal route.

25. (Original) The method of determining an optimal route of claim 24, wherein the default routing path is a previously determined optimal route.

26. (Presently Amended) The method of determining an optimal route of claim 23, wherein if the <u>at least one</u> third selected routes do<u>es</u> not include a default routing path,

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then selecting the default routing path if the success long ratio of the default routing path is greater than the success long ratios of the third selected routes.

27. (Presently Amended) The method of determining an optimal route of claim 23, wherein if the at least one third selected routes does not include a default routing path, then selecting at least one of the third selected routes if the success long ratio of the default routing path is less than the success long ratios of the at least one third selected routes.